

IN THE CLAIMS:

1. (Amended) A method for dry detection/quantification of targeted nucleotide chains, comprising the steps of:

BI (1) forming a hybrid (C) of a certain amount of a targeted nucleotide chain (A), and a probe nucleotide chain (B), which has a base sequence complementary to a specific site of the base sequence of said targeted nucleotide chain, on a solid-phase substrate by mutually reacting the two types of nucleotide chains with each other, and in which there exists a fluorescence dye (D), which acts on said hybrid (C), thereby emits fluorescence or increases its fluorescence intensity, and is capable of continuing to emit fluorescence even in a dried state while acting on said hybrid;

(2) drying said hybrid (C) and said fluorescence dye (D) on said substrate; and

(3) measuring the fluorescence emitted from said fluorescence dye (D), as measuring means, after the drying operation.

2. (Unchanged From Prior Version) The method according to Claim 1, wherein, in said step (1), both of the formation (1-1) of said hybrid (C) and the action (1-2) of said fluorescence dye (D) on said hybrid (C) are carried out in state where they are dissolved in said sample solution.

3. (Unchanged From Prior Version) The method according to Claim 1, wherein, in said step (1), both of the formation (1-1) of said hybrid (C) and the action (1-2)

of said fluorescence dye (D) on said hybrid (C) are carried out in state where they are fixed on said substrate.

B2 4. (Amended) The method according to Claim 3, further comprising a step (1-0) of fixing said probe nucleotide chain (B) on the surface of said substrate before allowing said probe nucleotide chain (B) to act on said targeted nucleotide chain (A).

5. (Amended) The method according to Claim 3, further comprising a step (1-0') of fixing said targeted nucleotide chain (A) on the surface of said substrate before allowing said targeted nucleotide chain (A) to act on said probe nucleotide chain (B).

6. (Unchanged From Prior Version) The method according to Claim 3, further comprising a step (1-1') of removing the nucleotide chain other than said hybrid (C) in the solution by washing operation after the formation (1-1) of said hybrid (C) and before the action (1-2) of said fluorescence dye (D) on said hybrid (C) in said step (1).

7. (Unchanged From Prior Version) The method according to Claim 3, further comprising a step (1-3) of removing said fluorescence dye (D) not having acted on said hybrid (C) by washing operation after the action (1-2) of said fluorescence dye (D) on said hybrid (C) in said step (1).

8. (Unchanged From Prior Version) The method according to Claim 3, further comprising a step (1-4) of removing the solvent including said hybrid (C) and said

fluorescence dye (D) having acted on said hybrid (C) by gas flow between said steps (1) and (2).

9. (Unchanged From Prior Version) The method according to Claim 1, wherein said solid-phase substrate is a glass substrate.

10. (Unchanged From Prior Version) The method according to Claim 1, wherein said solid-phase substrate is a resin substrate.

11. (Unchanged From Prior Version) The method according to Claim 1, wherein said targeted nucleotide chain (A) is a single-stranded nucleotide chain.

12. (Unchanged From Prior Version) The method according to Claim 1, wherein said targeted nucleotide chain (A) is DNA.

13. (Unchanged From Prior Version) The method according to Claim 1, wherein said targeted nucleotide chain (A) is RNA.

14. (Unchanged From Prior Version) The method according to Claim 13, wherein said targeted nucleotide chain (A) is mRNA.

15. (Unchanged From Prior Version) The method according to Claim 1, wherein said fluorescence dye (D) is an intercalator which enters the space between the two base pairs of the doublestranded nucleotide chain.

16. (Unchanged From Prior Version) The method according to Claim 1, wherein said fluorescence dye (D) is a groove binding type dye which enters the groove of the double-stranded nucleotide chain.

17. (Unchanged From Prior Version) The method according to Claim 15, wherein said fluorescence dye (D) is 2-methyl-4,6-bis (4-N,N-dimethylaminophenyl) pyrylium salt.

18. (Unchanged From Prior Version) The method according to Claim 15, wherein said fluorescence dye (D) is ethidium bromide.

19. (Unchanged From Prior Version) The method according to Claim 16, wherein said fluorescence dye (D) is YOYO1.

B3 20. (Amended) A method for dry detection/quantification of multi-stranded nucleotide chains, comprising the steps of:

(1) adding to a sample solution, which is subjected to detection/quantification of a multi-stranded nucleotide chain, a fluorescence dye having a

fluorescence characteristic of emitting fluorescence or increasing its fluorescence intensity in the presence of a multi-stranded nucleotide chain and capable of maintaining the fluorescence characteristic in a dried state;

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(2) placing a known amount of said sample solution with said fluorescence dye added thereto on a clean substrate so as to dry the sample solution; and

(3) measuring the fluorescence emitted from the dried sample and detecting/quantifying said multi-stranded nucleotide chain in said sample solution based on obtained measured values.

21. (Unchanged From Prior Version) The method according to Claim 20, wherein said multi-stranded nucleotide chain is any one of double-stranded nucleotide chain, triple-stranded nucleotide chain and quadruple-stranded nucleotide chain.

22. (Unchanged From Prior Version) The method according to Claim 20, wherein said fluorescence dye is an intercalator which enters the space between the two base pairs of said doublestranded nucleotide chain.

23. (Unchanged From Prior Version) The method according to Claim 20, wherein said fluorescence dye is a groove binding type dye which enters the groove of said double-stranded nucleotide chain.